

AMENDMENTS TO THE CLAIMS

Listing of claims:

1. (Currently Amended) A method for migration between a permanent connection and a switched connection in a transmission network, the method comprising:

a) ~~the ingress node of a current connection after receiving a message of connection migrating request, forwarding, by an ingress node of a current connection, the a message of the~~ connection migrating request node by node in a direction of traffic signal transmission of the current connection starting from ~~an~~ the ingress node until an egress node of the current connection; ~~after receiving a message of connection migrating request the message being signaling, comprising the connection migrating request, and is transmitted on a control plane; and~~

b) making migration between ~~a~~ the permanent connection and ~~a~~ the switched connection node by node after receiving the message of connection migrating request.

2. (Currently Amended) The method according to claim 1, wherein the step of forwarding the message of connection migrating request and the step of making the migration are performed by a control plane of a node and the message of connection migrating request is transferred via ~~the a~~ plurality of control links.

3. (Previously Presented) The method according to claim 2, wherein a migration from the permanent connection to the switched connection in the step of making the migration between the permanent connection and the switched connection comprises:

creating a state of the switched connection on the control plane of the node and handing over cross-connections of the permanent connection at node to the control plane.

4. (Previously Presented) The method according to claim 2, wherein a migration from the switched connection to the permanent connection in the step of making the migration between the permanent connection and the switched connection comprises:

deleting a state of the switched connection from the control plane of the node and handing over cross-connections of the switched connection at the node to a management plane.

5. (Previously Presented) The method according to claim 2, wherein the control plane is based on TCP/IP protocol, and the step of making the migration between the permanent connection and the switched connection is implemented by using the RSVP-TE signaling protocol or the CR-LDP signaling protocol.

6. (Previously Presented) The method according to claim 1, wherein the migration between the permanent connection and the switched connection node by node in the step b) comprises:

making the migration between the permanent connection and the switched connection node by node starting from the egress node until the ingress node in a reversed direction of a forwarding path of the message of connection migrating request after the message of connection migrating request reaches the egress node.

7. (Previously Presented) The method according to claim 6, further comprising:

each node, after completing the migration, sending a message of migration completing notification to a next node required to make the migration until the ingress node, which sends the message of migration completing notification to an initiator of the connection migrating request.

8. (Previously Presented) The method according to claim 1, wherein the migration between the permanent connection and the switched connection node by node in the step b) comprises:

each node making the migration between the permanent connection and the switched connection after receiving the message of connection migrating request.

9. (Previously Presented) The method according to claim 8, further comprising:

after all nodes complete the migration, forwarding the message of migration completing notification node by node starting from the egress node till the ingress node in the reversed direction of the forwarding path of the message of request, and the ingress node sending the message of migration completing notification to an initiator of the connection migrating request.

10. (Previously Presented) The method according to claim 7, wherein the message of migration completing notification comprises routing information of an entire connecting link of the migration.

11. (Previously Presented) The method according to claim 7, wherein the message of migration completing notification comprises an identifier of a current switched connection if the migration between the permanent connection and the switched connection is a migration from the switched connection to the permanent connection.

12. (Previously Presented) The method according to claim 1, wherein the message of connection migrating request received by the ingress node comprises:

an ingress node identifier and incoming port information of the ingress node of the connection currently requested to be migrated, or the ingress node identifier and outgoing port information of the ingress node of the connection currently requested to be migrated, and each node adds its own outgoing port information to the message of connection migrating request before forwarding the message.

13. (Previously Presented) The method according to claim 12, wherein, in the step of forwarding the message of connection migrating request by each node, the outgoing port information from a present node to a next node is added to the message of connection migrating request if the message includes the incoming port information; and

the incoming port information from the present node to the next node is added to the message of connection migrating request if the message includes the outgoing port information.

14. (Previously Presented) The method according to claim 12, wherein the incoming port information comprises an identifier of the incoming port, or an identifier of the incoming channel, or the combination thereof; and

the outgoing port information comprises an identifier of the outgoing port, or an identifier of the outgoing channel, or the combination thereof.

15. (Previously Presented) The method according to claim 12, wherein the outgoing port information of the node is obtained by inquiring cross-connection information stored in the node itself based on the incoming port information of the current node.

16. (Previously Presented) The method according to claim 12, further comprising before the ingress node makes the migration between the permanent connection and the switched connection:

deciding whether the ingress node identifier and incoming port information or the ingress node identifier and outgoing port information contained in the received message of connection migrating request is correct or not, if yes, making the migration, otherwise returning a message of failure.

17. (Previously Presented) The method according to claim 12, wherein the message of connection migrating request received by the ingress node further comprises:

an egress node identifier, or the egress node identifier and outgoing port information at the egress node of the current connection requested to be migrated.

18. (Previously Presented) The method according to claim 17, further comprising before the egress node makes the migration between the permanent connection and the switched connection:

deciding whether the egress node identifier or the egress node identifier and outgoing port information contained in the received message of connection migrating request is correct or not, if yes, creating or deleting the switched connection at the node, otherwise returning a message of failure.

19. (Previously Presented) The method according to claim 1, wherein, if the migration between the permanent connection and the switched connection is a migration from the switched connection to the permanent connection, the message of connection migrating request received by the ingress node comprises:

an identifier of a current switched connection.

20. (Previously Presented) The method according to claim 1, wherein the connection is a uni-directional connection or a bi-directional connection.

21. (Previously Presented) The method according to claim 1, wherein the switched connection is a soft permanent connection initiated by network management system or a switched connection initiated by a client device or a proxy thereof.

22. (Previously Presented) The method according to claim 1, wherein the transmission network is a Synchronous Digital Hierarchy, or a synchronous optical network, or a wavelength switched network, or an Optical Transport Network (OTN).